medication was still significant. Whether this "near doubling to 2" of episodes indicates a successful intervention must be up to women with depressed desire to decide.

Side effects were similar in the 3 groups, but there was a 20% increase in hair growth in the 300-µg group compared with 10% in the placebo group. A concern was that 4 of the 800 participants developed breast cancer over the year's surveillance—2 after 4 months of treatment and 1 whose disease probably predated the trial—and all received active treatment. Although possibly due to chance, a causal association must be considered.

The authors suggest these improvements are clinically valuable, offering relief for women with hypoactive sexual desire disorder and low serum estrogen levels.

Hormonal Contraception

The Effects of Hormonal Contraception

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[*Rev Obstet Gynecol.* 2009;2(1):66]

Physiologic and Psychologic Symptoms Associated With Use of Injectable Contraception and 20-Microgram Oral Contraceptive Pills

Berenson AB, Odom SD, Breitkopf CR, Rahman M.
Am J Obstet Gynecol. 2008;199:351.e1-351.e12.

There are many claims made about the beneficial effects of hormonal contraceptives other than their ability to prevent pregnancy. Studies have tracked women's responses to oral contraceptives (OCs) or depot medroxyprogesterone acetate (DMPA), but few have taken into account the woman's entry status or baseline symptoms, and fewer still have looked at control groups on nonhormonal contraception. Another problem has been the duration of follow-up, which should be longer than 1 year to properly assess the steady state of a changed hormonal environment.

A study by Berenson and colleagues deals with the issues of baseline status and prolonged use in a series of women using injectable DMPA and low-dose OCs (typically 20 µg estrogen–containing pills).

The first important finding was that symptoms are common in the absence of contraceptive use, such as acne, cyclical mastalgia, cramping, and mood swings. They found these symptoms improved on sustained use of OCs compared with control groups, and there was no evidence that depression was a problem, despite lowered mood being a commonly quoted negative effect among those prescribing OCs.

The most frequent side effect was intermenstrual bleeding with OCs and an increased risk of bleeding for more than 20 days, amenorrhea, weight gain, and loss of energy and libido on DMPA. Most of these effects resolved after 6 months and almost all resolved by 12 months, with amenorrheaic women often welcoming the side effect.

Finally, the researchers found that women were not clearly informed of the potential side effects, or of their resolution with ongoing use. They recommend careful counseling about what to expect and more frequent follow-up after initiation to provide reassurance or a change to another method if required.

Hormonal Contraception and Bone Mineral Density

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Effects of Depot Medroxyprogesterone Acetate and 20-Microgram Oral Contraceptives on Bone Mineral Density

Berenson AB, Rahman M, Breitkopf CR, Bi LX.
Obstet Gynecol. 2008;112:788-799.

Hormonal contraceptives negatively affect bone mass density (BMD), but the effect is small and reversible. Low-dose OCs in young women are associated with less than 0.5% BMD loss in the hip and spine.

Berenson and colleagues also looked at BMD changes with DMPA and found up to a 5% loss. This is potentially significant in young women. They discovered that the effect was temporary and those who stopped using DMPA gained BMD at about 2.5% per year.

Overall, the benefits of hormonal contraception far outweigh the risks.

Acne and New Regimens

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Treatment of Acne Using a 3-Milligram Drospirenone/20-Microgram Ethinyl Estradiol Oral Contraceptive Administered in a 24/4 Regimen: A Randomized Controlled Trial

Maloney JM, Dietze P Jr, Watson D, et al.

Obstet Gynecol. 2008;112:773-781.

Androgen overproduction is a contributory factor for acne in women. It leads to excess keratinization of hair follicles and increased sebum production that are part of the pathogenesis of the disorder. OCs can offer an alternative hormonal environment with the estradiol component inducing the synthesis of sex hormone–binding globulins, an effect that seems not to be offset by the new progestins.

Specifically, drospirenone is a new progesterone with antimineralocorticoid plus antiandrogenic properties similar to spironolactone, and has been shown to offer relief from emotional and physical symptoms in premenstrual dysphoric disorder. A preparation of 3 mg of drospirenone with 20 µg of ethinyl estradiol given on a 24 days on/4 days off cycle has proved effective in symptom relief and cycle regulation. Maloney and colleagues report on its efficacy in managing moderate acne vulgaris. The researchers conducted a placebo-controlled trial over 6 months and found significant improvements in skin condition in those taking the active pills compared with placebo.

One third of patients improved on the inert pills, but 50% improved on the drospirenone/estradiol combination with a 3-fold increased likelihood of their skin being assessed as "clear or nearly clear" on the hormonal regimen. Those on OCs had a slight decrease in body weight, whereas those on the placebo had a modest increase.

Obstetrics

Why Doesn't a Mother Reject Her Fetus?

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Immune Activation Early in Pregnancy: Trouble Down the Road?

Silver RM.

Am J Obstet Gynecol. 2008;199:327-328.

Complement Activation Fragment Bb in Early Pregnancy and Spontaneous Preterm Birth

Lynch AM, Gibbs RS, Murphy JR, et al.

Am J Obstet Gynecol. 2008;199:354.e1-354.e8.

It is a wonder of pregnancy that the fetus is not rejected by the mother's immune system. A fetus must have some favored status that allows maternal tolerance, but the exact modifications of her immune responses have so far defied definition. It is clear that when the tolerance process goes awry, a spectrum of disorders results, such as miscarriage, fetal demise, preeclampsia, and preterm labor. It is postulated that deficient tolerance in early pregnancy leads to adverse outcomes months later.

The activation of the immune response or its suppression is being unraveled by the exploration of various pathways, many of which involve mediators of inflammatory mechanisms. One that is yielding intriguing results is the complement activation mechanism. Silver indicates that complement activation has been implicated in a number of autoimmune processes including lupus, rheumatoid arthritis, asthma, and various renal disorders.

In pregnancy, complement activation seems to have a key role in fetal loss associated with antiphospholipid syndrome. Complement activation or inhibition may be crucial in the treatment of the syndrome or in unexplained recurrent pregnancy losses.

Research by Lynch and colleagues now suggests that complement activation (or failure of its suppression) in early gestation leads to a greater risk of preterm labor